03040207-02

(Great Pee Dee River/Winyah Bay)

General Description

Watershed 03040207-02 (formerly 03040201-160, 03040201-170, and a portion of 03040207-040) is located in Marion, Florence, Williamsburg, Georgetown, and Horry Counties and consists primarily of the final segment of the ***Great Pee Dee River*** from the Lynches River through ***Winyah Bay*** and their tributaries. The watershed occupies 259,235 acres of the Lower Coastal Plain and Coastal Zone regions of South Carolina. Land use/land cover in the watershed includes: 30.0% forested wetland, 22.6% forested land, 20.3% water, 14.2% agricultural land, 6.9% nonforested wetland, 3.2% scrub/shrub land, 2.4% urban land, and 0.4% barren land.

This lowest section of the Great Pee Dee River accepts drainage from its upper reaches, together with Crooked Lake, Negro Lake Run (Maple Swamp), and Clark Creek (Muddy Creek, Mill Creek, Soccee Swamp, Island Branch, Cedar Branch). Apple Orchard Slough and Staple Lake connect Clark Creek to the river. Further downstream, the river accepts drainage from Jacobs Creek, Port Creek (Flat Run Swamp, Boser Swamp, Squirrel Run Bay, Pennyroyal Swamp, Bells Swamp, Tyler Creek), Larrimore Gully, Gravel Gully Branch, and Jordan Lake (Jordan Creek). Dog Lake and several unnamed oxbow lakes drain into the river. Conch Creek (Sally Branch) enters the river next, followed by Bradley Branch (Sheep Pen Branch), and Bull Creek (Cowford Swamp, Horsepen Branch). Also draining into the Great Pee Dee River are Vandross Bay, Yauhannah Creek (Tupelo Bay), Pole Castle Branch, St. Pauls Branch, Cypress Creek, and Chapel Creek. Little Bull Creek connects Bull Creek to the Great Pee Dee River and Cooter Creek (Joe Bay) connects Little Bull Creek to Thoroughfare Creek. Streams that connect the Great Pee Dee River to the Waccamaw River include Bull Creek, Thoroughfare Creek, Guendalose Creek/Bullins Creek, Squirrel Creek, Jericho Creek, and Middleton Cut. Carr Creek and Little Carr Creek connect the Great Pee Dee River to Jericho Creek. The streams are classified FW from the beginning of the watershed to the Great Pee Dee River's confluence with Thoroughfare Creek. Downstream of the confluence, the river is classified SB* (dissolved oxygen not less than daily average of 5.0 mg/l with a minimum of 4.0 mg/l) and its tributaries are classified SB. Clark Creek and Muddy Creek are classified FW* (dissolved oxygen not less than 4.0 mg/l and pH between 5.0 and 8.5) and the remaining streams mentioned above are classified FW.

The Great Pee Dee River Watershed accepts drainage from the Sampit River Watershed and the Waccamaw River Watershed to form Winyah Bay, which is classified SB and drains into the Atlantic Ocean. White Oak Bay drains into the upper portion of Winyah Bay, and Kinloch Creek and Mosquito Creek (Lagoon Creek) drain into both Winyah Bay and North Santee Bay (in Santee River Basin), all classified SB. Esterville Minim Creek Canal (SA) runs along Cat Island and connects the North Santee Bay to Winyah Bay through the Western Channel (SB). Mud Bay (SB) drains into Winyah Bay and accepts drainage from No Mans Friend Creek (SB), Haulover Creek (SB), Sign Creek (SB), Jones Creek (Dividing Creek-SB, Nancy Creek-SB, Little Jones Creek-SFH, Boor Creek-ORW, Noble Slough-SB), and Cotton Patch Creek (SB). Jones Creek (SB, SFH, ORW) connects Mud Bay to North Inlet. Oyster Bay (SB) connects Jones Creek to

Town Creek (Sawmill Creek-SB, Cutoff Creek-SFH), both draining to Winyah Bay and North Inlet. There are a total of 351.9 stream miles, 629.6 acres of lake waters, and 16,642.3 acres of estuarine areas in this watershed.

Surface Water Quality

Station #	Type	Class	Description
PD-060	W/INT	FW	PEE DEE RIVER AT PETERS FIELD LANDING OFF S-22-36
PD-061	P/W	FW	PEE DEE RIVER AT US 701 2.75 MI NE OF YAUHANNAH
MD-275	INT	SB*	PEE DEE RIVER AT WHITE HOUSE PLANTATION
MD-080	P/W	SB	WINYAH BAY AT MARKER 92 AT MOUTH OF PEE DEE AND WACCAMAW RIVERS
RO-02012	RO02	SB	WINYAH BAY NEAR MOUTH OF SAMPIT RIVER
RO-01121	RO01	SB	WINYAH BAY , 1.75 MI E OF GEORGETOWN
RO-01161	RO01	SB	WINYAH BAY , 3 MI S OF GEORGETOWN
RS-03331	RS03	FW	TRIB TO WINYAH BAY AT S-22-18, 0.6 MI NW OF INTERSECTION W S-22-30
RO-02010	RO02	SB	WINYAH BAY W CHANNEL AT MOUTH OF ESTERVILLE MINUM CREEK CANAL
MD-278	INT	SB	WINYAH BAY MAIN CHANNEL, BUOY 19A RANGE E (05-20)

Great Pee Dee River - There are three SCDHEC monitoring sites along this section of the Great Pee Dee River and recreational uses are supported at all sites. At the upstream site ***(PD-060)***, aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. Significant decreasing trends in five-day biochemical oxygen demand and increasing trends in dissolved oxygen concentration suggest improving conditions for these parameters. At the midstream site ***(PD-061)***, aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH and dissolved oxygen conditions. Although pH and dissolved oxygen excursions occurred, they were typical of values seen in swamps and blackwater systems and were considered natural, not standards violations. Significant decreasing trends in five-day biochemical oxygen demand and fecal coliform bacteria concentration suggest improving conditions for these parameters. A very high concentration of cadmium and a high concentration of zinc were measured in the 2003 sediment sample. At the downstream site ***(MD-275)***, aquatic life uses are not supported due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. This monitoring site is located in the freshwater-saltwater mixing zone. Although pH excursions occurred, the low values exemplify the natural transition of the river and are typical of values seen in tidally influenced systems with significant marsh drainage. As such they were considered natural, not standards violations.

Winyah Bay – There are six SCDHEC monitoring sites along Winyah Bay. The furthest upstream site ***(MD-080)*** is at the mixing zone of the Pee Dee and Waccamaw Rivers and Winyah Bay waters. It takes on the natural blackwater characteristics of low pH conditions from draining rivers systems and tidally influenced systems with significant marsh drainage and limited flushing. Aquatic life and recreational uses are fully supported. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There is a significant increasing trend in pH. Significant decreasing trends in total nitrogen concentration and fecal coliform bacteria concentration suggest improving conditions for these parameters. Stations ***RO-02012, RO-01121, RO-01161***, and ***RO-02010*** all fully support aquatic life and recreational uses. Aquatic life uses are partially supported at

MD-278 due to dissolved oxygen excursions, which are compounded by a significant decreasing trend in dissolved oxygen concentration. Recreational uses are fully supported at this site; however, there is a significant increasing trend in fecal coliform bacteria concentration. *Fish tissue samples from Winyah Bay indicate no advisories are needed at this time.*

Unnamed Tributary to Winyah Bay (RS-03331) – Aquatic life and recreational uses are fully supported.

*A fish consumption advisory has been issued by the Department for mercury and includes **Clark Creek,** the **Great Pee Dee River,** and the **Atlantic Intracoastal Waterway** within this watershed (see advisory p.130).*

Shellfish Monitoring Stations

Station #	Description
05-01	JONES CREEK AT NANCY CREEK
05-02	NOBLE SLOUGH
05-05	OYSTER BAY NEAR CUTOFF CREEK
05-06	NO MAN'S FRIEND CREEK AT MUD BAY
05-07	JONES CREEK AT MUD BAY
05-20	WINYAH BAY MAIN CHANNEL, BUOY 19A, RANGE E
05-21	WINYAH BAY MAIN CHANNEL, BUOY 17, RANGE E
05-24	WINYAH BAY MAIN CHANNEL, COAST GUARD DOCK, RANGE C
05-25	WINYAH BAY, TIP OF WESTERN CHANNEL ISLAND

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-050	GB	MIDDENDORF	HEMMINGWAY
AMB-012	GB	BLACK CREEK	GEORGETOWN #2

NPDES Program

Active NPDES Facilities

RECEIVING STREAM *FACILITY NAME* *PERMITTED FLOW @ PIPE (MGD)*	*NPDES#* *TYPE* *COMMENT*
BOSER SWAMP GCSD/DEEP CREEK ELEM SCHOOL PIPE #: 001 FLOW: 0.009	SC0039195 MINOR DOMESTIC
FLAT RUN SWAMP GCSD/PLEASANT HILL ELEM SCHOOL PIPE #: 001 FLOW: 0.018	SC0039101 MINOR DOMESTIC
MAPLE SWAMP CAROLINA SAND INC./BRITTONS NECK PIPE #: 001 FLOW: M/R	SCG730043 MINOR INDUSTRIAL
MAPLE SWAMP JAYCO/CANNONS LAKE MINE PIPE #: 001 FLOW: M/R	SCG730538 MINOR INDUSTRIAL

CHAPEL CREEK TRIBUTARY GCW&SD/PLANTERSVILLE EDR PIPE #: 001 FLOW: M/R	SCG645051 MINOR DOMESTIC
CLARK CREEK TOWN OF HEMINGWAY/WWTP PIPE #: 001 FLOW: 0.45	SC0039934 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME ***FACILITY TYPE***	***PERMIT #*** ***STATUS***
TOWN OF HEMINGWAY DUMP MUNICIPAL	---------- CLOSED
TOWN OF HEMMINWAY COMPOSTING SITE COMPOSTING	451003-3001 ACTIVE
THOMPSONS LAND CLEARING COMPOSTING	222678-3001 ACTIVE
GEORGETOWN COUNTY AIRPORT INDUSTRIAL	IWP-194 INACTIVE

Mining Activities

MINING COMPANY ***MINE NAME***	***PERMIT #*** ***MINERAL***
CAROLINA SAND, INC. GRESHAM MINE NECK SAND MINE #2	0899-67 SAND
JAYCO INC. BACCHUS LAKE MINE	1682-67 SAND
JAYCO INC. CANNONS LAKE MINE	1552-67 SAND
BEN COX CO. WHITE HALL SAND MINE	1675-67 SAND
AMERICAN MATERIALS CO. RICHARDSON MINE	1765-67 SAND/GRAVEL
CAROLINA SAND INC. JOHNSON ROAD MINE	1704-67 SAND
JAYCO INC. CHARLIE RICHARDSONS LAKE MINE	1776-67 SAND

Water Quantity

Portions of this watershed fall within the Waccamaw Capacity Use Area and large groundwater uses must be reported (see Capacity Use Program p.27).

WATER USER ***STREAM***	***REGULATED CAP. (MGD)*** ***PUMPING CAP. (MGD)***
CITY OF GEORGETOWN	5.2
GREAT PEE DEE RIVER	10.5
GSW&SA/BULL CREEK REGIONAL WTP	50.87
BULL CREEK	60.42

Growth Potential

There is an overall low potential for growth in this watershed, which contains the Towns of Hemingway, Bucksport, and Pawleys Island, the City of Johnsonville, and a portion of the City of Georgetown. Hemingway and Johnsonville have water and sewer infrastructure, but outside of the area, the Pee Dee River area is rural with primarily agricultural uses and timberlands. The area surrounding the City of Georgetown is expected to grow. The Georgetown treatment facility expanded to 12.0 MGD to allow more growth. Water infrastructure is located in the Plantersville community and areas closer to the City of Georgetown. The portion of the Georgetown area within this watershed should see primarily commercial and residential growth. The northern most area is expected to experience a high population increase, a medium increase is expected along the south side of Winyah Bay and the remaining area is only expected to experience a low increase due to lands protected from development by land trusts.